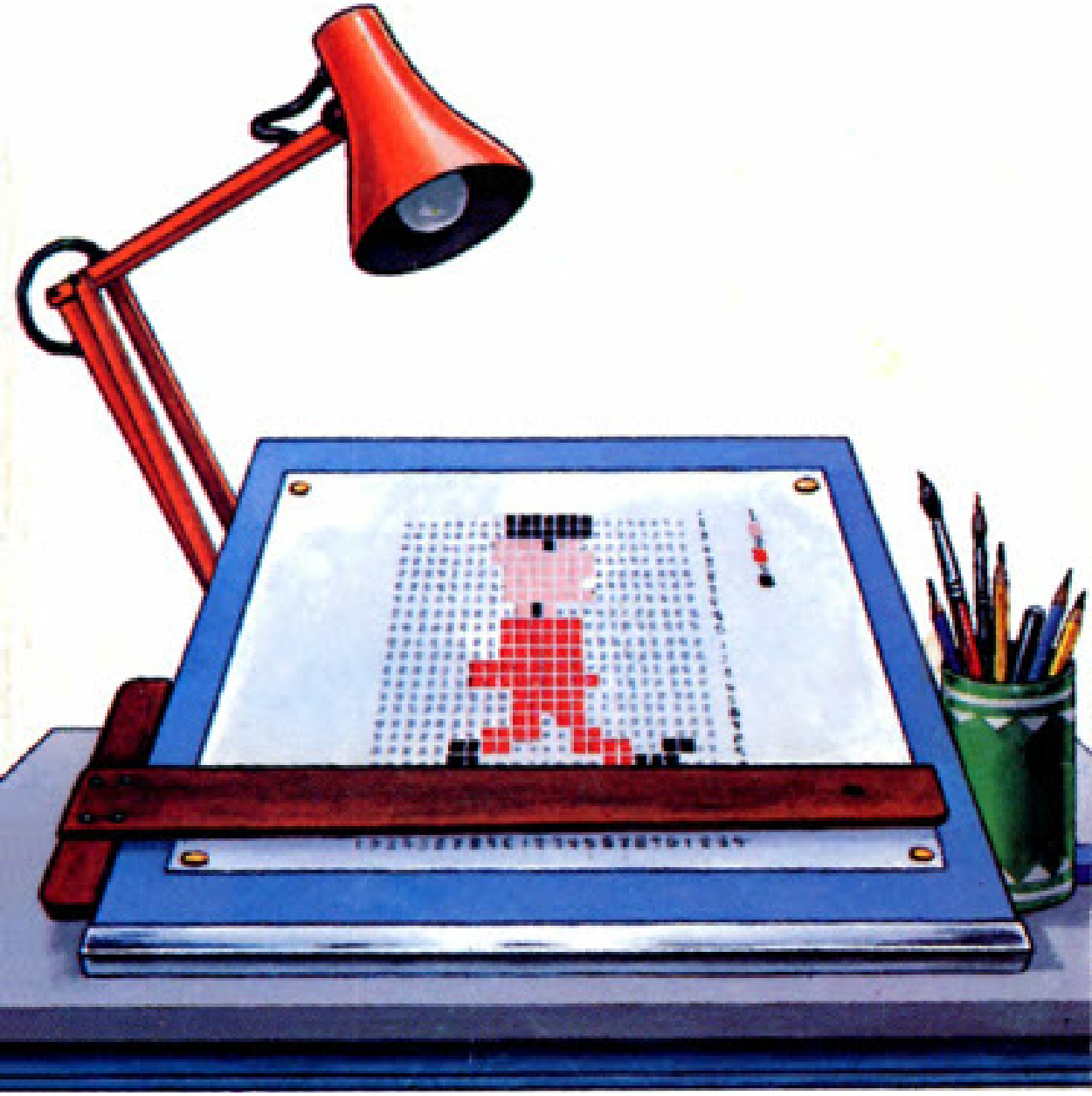
16 graphics designer

SUPERSOFT



GRAPHICS DESIGNER

GRAPHICS DESIGNER is available on disk or cassette. Here's how to load and run the program:

Tape users: type LOAD <RETURN> then RUN <RETURN>
Disk users: hold down SHIFT and press RUN/STOP

If you have a joystick plug it into either JOY1 or JOY2. The title page is displayed until you press a key or move the joystick. Next decide where in memory your character set is to be defined. On an unexpanded C16 there are only 2 choices, but on the Plus 4 there are 10 (the address of each block is shown in decimal and hexadecimal). If you are not sure what to do select A (you can go back to this screen later by holding down the CTRL key and pressing RUN/STOP).

Now you must decide whether to start by copying the standard character set from ROM. Even if you are going to redefine the entire set it you'll find it easier to start with the standard set, so you should usually press Y. You can download the standard character set at any time if you type INIT. Individual characters can be defined by pressing D, then typing the required character.

THE WORK SCREEN

When you are using GRAPHICS DESIGNER the entire character set is displayed at the bottom of the screen for reference. The characters in the current 'window' are shown on the left hand side. The window can be up to 10 characters high by 10 characters deep, but it defaults to a single character - to change the window size press N, then enter the horizontal and vertical dimensions (from 1 to 9; enter 0 instead of 10).

In the centre of the screen up to 4 characters from the window are displayed 'blown up' with each character dot (or pixel) represented by an entire character square.

Character 00 is the @ symbol. Note that in the reference set it is flashing to indicate that this is the character you are working on. By using the cursor keys or the joystick you can move around the window. If the window is larger than 2 by 2 the part which is enlarged will change, so that the current character is always shown. When you reach the edge of the window, the cursor 'wraps around' to the other side. The X and Y co-ordinate indicators show where you are within the window - GRAPHICS DESIGNER normally works in hexadecimal, but if you prefer to use decimal press N which toggles between the two.

EDITING THE WINDOW

You can turn the current pixel on by pressing the * key, or off using the space bar. Use the joystick button to reverse the current pixel, ie. turn it off if is on, or on if it is off. To draw using the cursor keys hold down the shift key (or use the shift lock); if you hold down the logo (CBM) key instead, pixels will be turned off rather than on as you move.

If you hold down the CTRL key and move using the cursor keys pixels will be reversed. You can also draw in this way using the joystick by holding down the fire button as you move.

The INST/DEL key works normally and the RETURN key moves the cursor to the start of the next line. HOME takes the cursor to the top left of the window and CLEAR (shift-HOME) clears the window after first asking for confirmation. A single character can be cleared by pressing ! (shift-1).

You can move from one character to the other using the + and - keys to step forwards and backwards through the character set. Watch the CHAR indicator (it gives the screen display code of the current character), and the ADDR indicator (the address of the first of the 8 bytes in memory representing the character). The last 5 characters of the set are used by the program and ideally they should not be redefined so the program does not normally allow these to be accessed using + or -.

To move directly to a character press G (Goto). Now type the character (using the shift or CBM key if necessary). To enter characters in the second half of the set you must first press CTRL-RVS ON (screen display codes 128 to 255 normally correspond to reverse-field characters, but GRAPHICS DESIGNER allows you to work with a full set of 256 characters).

Whenever GRAPHICS DESIGNER is expecting you to type a character you can, if you prefer, enter the position of the character in the character set (i.e. its screen code). First press RETURN, then enter the position in hex (00-FF), or decimal (0-255), whichever you have decided to use.

CHANGING COLOURS

When you first run GRAPHICS DESIGNER the screen is white with a blue border, whilst the characters are black. On the far right of the screen you'll see three coloured squares, each with a number just above. Here's how to change the screen colours:

f1	-	background colour
f2	-	multicolour 1
f3	-	multicolour 2
HELP	-	foreground colour
X	-	border colour

If you hold down the shift key you can cycle through the colours in the opposite direction.

Multicolours 1 and 2 are only of interest in multicolour mode (see below). Note however, that when you press f2 or f3 the first two coloured squares change colour.

To increase the luminance (brightness) of any colour hold down the CTRL key and press the corresponding function key. To decrease the luminance hold down the CBM key while you press the relevant key. Hold down the CTRL key and press FLASH ON to make the current character flash; press again to cancel flashing (flashing cannot be selected in multicolour mode).

Normally when you change the foreground colour all of the characters in the window change colour - this is GLOBAL mode. If you press the @ key the word LOCAL will replace the word GLOBAL - in this mode changing the foreground colour changes only the current character, not the entire window. Press @ a second time to return to GLOBAL mode.

MULTICOLOUR MODE

Normally only two colours, foreground and background, are allowed in any character square. Press M to select multicolour mode, which allows up to four colours - at the cost of lower resolution. In multicolour mode the computer displays dots in horizontal pairs, so that although each character is still the same size, there are effectively only 4 double-width pixels in the horizontal direction.

Experiment by changing the foreground colour - note that colours 8 to 15 are now the same as colours 0 to 7. There is a difference though - when you choose a colour in the range 0 to 7 characters are displayed normally; when the colour is 8 to 15, characters become multicoloured. Because the same data is interpreted in different ways depending on whether or not you are in multicolour mode, your characters may look quite strange in the wrong mode.

Did you notice the arrow which appeared when you first selected multicolour mode? This indicates which of the three 'brushes' is being used - to change brushes press ESC.

Although the foreground colour may be changed from character to character, the background and both multicolours are the same for the entire character set. You can force the foreground colour of every character to be the same as for the current character if you press shift-I.

To exit from multicolour mode back to normal (bit map) mode press B.

ADVANCED EDITING

The commands listed below can be applied to the entire window, or else restricted to the current character by holding down the shift key. Watch the top line of the screen for prompts.

F - FLIP
Press F followed by a cursor key to create a mirror image.

R - REVERSE
This command turns pixels which are on off, and vice versa.

S - SHIFT
Press S followed by a cursor key to shift the window one pixel in the specified direction. Pixels which 'fall off' at the edge reappear at the opposite edge.

T - TURN
This command turns the window 90 degrees in a clockwise direction. When used with a window which is not square, a square section of the window rotates.

E - EXCHANGE
Press E followed by a character to exchange the current character (or window) with the specified character(s). Use this command to move characters around the character set. Press E a second time, followed by the same character, to cancel the exchange.

P - PLACE
Press P followed by a character to place the contents of the window over the specified character(s). The existing definitions of these characters will be lost!

C - COPY
This allows you to combine two characters or windows. The result is placed in the current window; the characters being copied are not changed.

A - ASSOCIATE
When you exchange, copy or place characters, the colour of the characters does not change - unless the ASSOCIATE function is turned on by pressing A. Press A again to disable association of colours.

The next three commands affect the entire window - you cannot restrict them to the current character by holding down the shift key:

CTRL F - FILL
The fill command allows you to fill in part of a window bounded by pixels which are on (or by the boundary). For example, you could fill in a circle or a square.

CTRL R - REMOVE
The opposite of fill, the remove command erases an area. The area need not be solid - it could be an outline, or partially filled. In multicolour mode all colours other than the background are treated as one.

CTRL U - UNFILL
Similar to REMOVE, but in multicolour mode only pixels in the selected colour are removed.

LOADING AND SAVING

GRAPHICS DESIGNER allows you to save all or part of a character set. Type KEEP then enter D for disk or T for tape; next press D to save the character definitions, or C to save the corresponding foreground colours. Now enter the first character to be saved by typing it on the keyboard, or by pressing RETURN, then entering the character value. Enter the last character to be saved in the same way.

Finally, enter the name of the file, which must be between 1 and 16 characters long. It is a good idea to prefix the name of the file with 'D/' or 'C/' so that you can identify from the file name whether it contains character definitions or colour data.

To load a file that you have previously saved type OLD. Press D or T (disk or tape), then enter the filename.

GRAPHICS DESIGNER automatically detects disk errors (though it leaves the error light flashing); if you are using tape, press RUN/STOP to abort a save or load.

OTHER FEATURES

ANIMATION

The + and - keys can be used to flick quickly through a series of characters or windows. Press L to change the limits used by the + and - keys to the first and last characters which make up the sequence to be animated. The default limits of $00 and $FA (0 and 250 decimal) can be restored by Pressing shift-L.

MACROS

GRAPHICS DESIGNER allows the recording of a sequence of up to 255 key presses which can be played back at the touch of a key - this can save tedious repetition:

CTRL-1	starts recording
CTRL-2	ends recording
CTRL-3	plays back

Beware - an infinite, repetitive sequence can be created by including the playback command within the sequence!

MISCELLANEOUS INFORMATION

You can exit from the program by pressing RUN/STOP. Most commands can be cancelled by pressing the DEL key.

The colours of the reference character set are stored in locations $2E00 to $2EFF (11776 to 12031).

To use the characters you have defined you must tell the computer where they are in memory otherwise nothing but 'garbage' will appear (and don't forget to make sure that they are in memory).

To switch in your character set type:

```
POKE65298,PEEK(65298)AND251:POKE65299,X/256
```

Where X is the address of your character set (eg. 12288 if you selected option A).

To switch back to the normal character set type:

```
POKE65298,PEEK(65298)OR4:POKE65299,208
```

Normally the C16 and Plus 4 can display only 128 characters plus reverse field versions of the same characters. POKE65287,PEEK(65287)OR128 allows 256 different characters to be used.

To return to normal enter POKE65287,PEEK(65287)AND127. You can see the effect of this if you display the entire character set with:

```
FORI=0T0255:POKE3072+I,I:NEXT
```

QUICK REFERENCE CHART

*****	Draws a dot and moves the cursor right
SPACE	Erases a dot and moves cursor right
shift-INST	Insert blank pixel on current line
DEL	Delete pixel and close up current line
HOME	Move cursor to top left of window
shift-CLEAR	Clear entire window
!	Clear current character
CURSOR keys	Move cursor
shift-CURSOR	Draw line in direction of key
CBM-CURSOR	Erase line in direction of key
CTRL-CURSOR	Reverse pixels in direction of key
W	Define window

The following keys work on the entire window in normal mode, and the current character only in shifted mode:

C	Combine specified work area with current work area
E	Exchange specified work area with current work area
F	Flip current work area in direction of cursor key
P	Place current work area over specified work area
R	Reverse current work area
S	Scroll current work area in direction of cursor key
T	Turn current work area 90 degrees clockwise
D	Define specified work area from ROM
CTRL-F	Fill blank area
CTRL-R	Remove filled area
+/-	Pan through possible work areas in reference set

Other features:

A	Toggle colour association
@	Toggle Global/Local colour change
shift-I	Set character set to current character colour
G	Goto (edit) chosen character
M	Enter Multicolour mode
B	Enter Bit-mapped mode
I-N-I-T	Initialise reference character set
O-L-D	Load character set from tape or disk
K-E-E-P	Save character set on tape or disk
L	Set pan limits for '+' and '-'
shift-L	Set default pan limits
CTRL-1/2/3	Record/End/Playback sequence
f1	Select background colour
f2/f3	Select multicolours
HELP	Select foreground colour
X	Select border colour
ESC	Select multicolour 'brush'
CTRL-colour key	Increase luminance
CBM-colour key	Decrease luminance
CTRL-FLASH ON	Toggle foreground flashing mode